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ABSTRACT

Three areas of activity of the Institute for Research and Development in Occupational Education (IRDOE) of the City University of New York in training occupational education teachers are described. These activities (a 1976 summer workshop, 1976-77 school-year activities, and efforts to develop a student outcome based curriculum) resulted as an outgrowth of IRDOE involvement with the Instructional Support System for Occupational Education (ISSOE) program. The purpose of this New York state-wide program is to develop, implement, and evaluate a modularized curriculum based on behavioral objectives and criterion-referenced measures, ultimately to be used by occupational educators throughout New York State. The ISSOE is based on teacher-developed curricula and involves training of teachers in the writing of these materials. The 1976 summer workshop of the IRDOE involved nineteen teachers in the Food Trade and the Building Industries Occupations curricula areas in basic concepts of competency based education. Organization and conduct of the workshop involved small and large group instruction. Resulting from the workshop were preliminary drafts of modules and objectives in the two occupational fields. IRDOE activities during 1976-77 in three New York regions involved twenty-one teachers instructing in the two curricular areas; major objective of the year's activities was to revise and add to the summer workshop materials. In addition, discussions were held on implementation, student reporting systems, and general record keeping, and individualizing instruction. Developmental activities of the IRDOE centered on facilitating the tasks of occupational education instructors in developing a student outcome based curriculum, and included regional meetings, workshops, materials validation, and informal evaluation of materials delivery systems. (MJB)

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DEVELOPMENT OF INSTRUCTIONAL SUPPORT SYSTEM-OCCUPATIONAL EDUCATION 1976-1977

THEODORE ABRAMSON

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Institute for Research and Development in Occupational Education
Center for Advanced Study in Education
The Graduate School and University Center
of the City University of New York

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in cooperation with the
Division of Occupational Education Instruction
The New York State Education Department
University of the State of New York

CASE 34-77
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INTRODUCTION

The purpose of the Instructional Support System for Occupational Education (ISSOE) is to develop, implement, and evaluate a modularized curriculum based on behavioral objectives and criterion referenced measures which will ultimately be used by occupational educators throughout New York State. A unique feature of this curriculum is that it is to be developed primarily by occupational education teachers. Thus, ISSOE is based on the philosophy that teachers will more readily utilize that which they have developed themselves. Since many teachers are unfamiliar with behaviorally developed curriculum, a major aspect of the ISSOE effort involves training teachers in the writing of these materials.

The long range goal of ISSOE is the development of curricula for all subject areas of occupational education to be used throughout the entire State of New York. The structure of the ISSOE project is the development of specific content areas by teachers in selected regions with the completed material being disseminated throughout the rest of the State. This year's effort involved the content areas of Food Trades and Building Industries Occupations in the Orange-Dutchess, Capitol District, and Erie-Buffalo regions. Last year, Cornell University worked with instructors in the content areas of Automotive Mechanics and Office Practices in three New York regions.

Part of Cornell University's original contribution to ISSOE was the definition of terms and the establishment of a format to be used consistently throughout the project. The expansion of ISSOE led to this year's

involvement of the Institute for Research and Development in Occupational Education (IRDOE), of City University of New York in training teachers. IRDOE utilized the definitions and format which had been developed by Cornell in the previous year. Similarly, the same format and definitions will be used during subsequent years. It was the goal of IRDOE during this year to have the teachers develop curricula in Food Trades and Building Industry Occupations using the ISSOE structure developed by Cornell.

The purpose of the present report is to describe the past year's activities of IRDOE. Specifically, three areas will be discussed:

(1) Summer Workshop activities

(2) School year activities

(3) Development Activities

SUMMER WORKSHOP

The purpose of the 1976 summer workshop run by IRDOE was the development, by occupational education instructors and coordinators of modularized instruction. Of the nineteen teachers involved, thirteen were from Building Industries Occupations, and six were from Food Trades. In addition, there were three curriculum coordinators present, two of whom had been involved with ISSOE during the previous year. Two general consultants familiarized participants with the basic concepts of competency based education which have been incorporated into the ISSOE format. Of the three individuals present from the State Education Department, one was a specialist in Building Industries Occupations curriculum. Also, there was one individual who specifically consulted with the Food Trades instructors.

A more detailed account of the summer workshop is divided into two major categories: large group activities and small group activities. (see Appendix A for workshop schedule).

In the former category, all the participants of the workshop met as a group on a daily basis. On the first day, an introduction to ISSOE, including its history, direction and purpose, was presented. ISSOE definitions and format were also presented. The speakers in the remainder of the large group sessions talked about the concepts of a behaviorally written curriculum. Units, modules, and major objectives, as well as enabling objectives and learning activities, were defined and discussed. (See Appendix B for definitions).

Following each large group session, the workshop participants were divided into two smaller groups: those involved in Building Industry Occupations, and those in Food Trades. Within each group, the first step was the analysis of each of the two subject areas into units and modules. Group participants, with the help of the available consultants, wrote and refined major objectives for these modules. Major objectives were then broken down into enabling objectives, and in some cases, learning, and instructional activities were suggested. Finally, group participants worked on developing criterion referenced measures for the major objectives.

The final products of the summer workshop were the modules, major objectives, and criterion referenced measures which were the basis for the curriculum revisions developed in the following year. Although some of the material from the summer was retained, many of the objectives were refined and changed. In addition, where some modules and objectives were dropped, new ones were often added. In other words, the product of the summer workshop was a first draft that was continually revised throughout the year.

1976-1977 SCHOOL YEAR

In the 1976-1977 school year, IRDOE was involved with three regions: Orange-Dutchess, Buffalo-Erie, and the Capitol District. Each region had two curriculum coordinators. In the Capitol District, one coordinator worked with the Food Trades instructor, while the other assisted the Building Industries Occupations group. In the other two regions, however, both curriculum coordinators shared responsibilities for both subject areas. The teachers who participated in the project were there on a voluntary basis and were paid for their participation. The number of teachers is indicated in Table 1. Across all three regions, 752 students were taught by Food Trade teachers involved in the ISSOE effort and 842 students in Building Industries Occupations were taught by teachers involved in the ISSOE effort.

TABLE 1

Number of Participating
ISSOE Teachers by Region

Region	Curriculum Area	
	Food Trades	Building Industries Occupations
Orange-Dutchess	8	13
Buffalo-Erie	7	9
Capitol District	6	13

The Orange-Dutchess and Capitol District regions met once a month for a three hour session. Due to a late start, the Buffalo-Erie region met for two three-hour sessions per month starting in February 1977. (See Table 2)

TABLE 2

Schedule of ISSOE Meetings by Region

Regions	# Meetings Per Month	Month Meetings Began	Total # of Meetings	Hours per Meeting
Orange-Dutchess	1	September	10	3
Capitol District	1	September	10	3
Buffalo-Erie	2	February	10	3

The general responsibility of the participants during the course of the year was to revise and add to the material which was produced during the previous summer. However, the specific tasks of the teachers was dependent on their region. Most of the ISSOE teachers in the Capitol District had attended the summer workshop and were prepared to start revising the package and writing new material which had not yet been developed. Participants from this area were also able to implement some of the modules in their classes and provide the group with feedback regarding the effectiveness of the material. In the Orange-Dutchess region only a few of the

teachers had been at the summer workshop. Since most of the group were new to ISSOE a preliminary review and summary of the ISSOE system was necessary. This reduced the work time to the extent that teachers were able only to review and revise the summer material. There was little new material written by this group and there was almost no implementation. In the Buffalo area, no teachers had attended the summer workshops. Therefore, the primary responsibility of the Buffalo group was to become familiar with the ISSOE concepts and to revise the material that had been written during the summer. Virtually no new material was written. Clearly participation in the intense two week workshops allowed teachers to begin the school year on a sound basis.

Group sessions in all three regions were run in a similar manner. Each instructor was given an assignment to either rewrite an old major objective or write a new one. The newly worked-on material was then presented to the whole group and discussed. If further changes were needed, they would again, be made by an individial teacher. The group discussions were sometimes heated, and often, the same module underwent several revisions. Finally, the summer outline was refined. Units and modules were either added, dropped, or revised. Similarly, some major objectives from the summer were refined, while new ones were assigned and written. When major objectives were completed, criterion referenced measures were assigned, written, and discussed.

In the Foods Trades, the ISSOE teachers approximately doubled the number of modules, major objectives and criterion referenced measures during the course of the year: Number of modules, from 26 to 49, number of major objectives, from 35 to 85, number of assessments from 10 to 19. (See Table 3). As can be seen from Table 4, the major work appears to have

TABLE 3

Modifications and Development of ISSOE Food Trades Curriculum from July 1976 to June 1977

	UNITS		MODULES		MAJOR OBJECTIVES		CRM		NATURE of CHANGE
	Final 6/76	Sum. '76	Final	Sum. '76	Final 6/76	Sum. '76	Final 6/77	Sum. '76	
Orientation	1	1	2	3	12	12	1	1	1 Module deleted
Tools & Utensils	1	1	5	5	5	5	1	0	1 CRM developed
Equipment	1	1	4	4	4	4	1	0	1 Mod. title change 1 CRM developed
ndards	1	1	7	4	8	4	1	0	3 Mod. added 4 M. Obj.added 1 CRM developed
Menu	1	1	2	0	2	0	2	0	Beyond unit title,beyond unit developed during year
Product Handling	1	1	1	1	1	1	0	1	Unit reorganized during year
Food Preparation	1	1	8	8	32	8	10	8	1 Mod. Title Change Added 24 M.O. CRM Made more Specific 2 added
Career Development	1	1	6	0	6	0	0	0	Changed from "employment" Newly developed unit
Beverages	1	1	3	1	3	1	1	0	Divided into separate modules with M.O.s 1 CRM developed
Dining Room Service	1	1	5	0	5	0	1	0	Newly developed unit
Nutrition	1	1	5	0	5	0	1	0	Nutrition Unit completely developed Fall-Spring 76-77
Baking	1	1	1	0	2	0	0	0	Newly developed unit
TOTAL	12	12	49	26	85	35	19	10	

TABLE 4

Modifications and Development of ISSOE Building Industries Occupations Curriculum from July 1976 to June 1977

	UNITS		MODULES		MAJOR OBJECTIVES		CRM		NATURE OF CHANGE		
	Final 6/77	Sum. '76	Final 6/77	Sum. '76	Final 6/77	Sum. '76	Final 6/77	Sum. '76	MOD	M.O.	CRM
CARPENTRY	1	1	10	10	55	56	26	10	Same	Phrase Changes 1 Deletion	Added 16 specific assessments
ELECTRICAL	1	1	6	7	19	16	17	8	Com-bined 2 to 1	Phrase Changes Added 3	Added 9 Specific assessments
MASONRY	1	1	7	7	27	29	6	5	Same	Deleted 2 M.O.	Added 1 CRM Original CRM's Reorganized
ENVIRONMENTAL CONTROL	1 1	0 0	3	0	5	0	5	0	Creation of Environmental Control Unit began in March 77. Minor editorial changes were completed for final product.		
TOTAL	4	3	26	24	106	101	54	23			

been in the development of CRMs which more than doubled from 23 to 54. This group also developed the environmental control unit during the year as no work was done on this unit during the summer.

In addition to the writing and rewriting of materials, discussions were held concerning aspects of implementation, problems of a student reporting system and general record keeping, and individualizing instruction. An attempt was made to implement some of the material in two of the regions (Buffalo-Erie region, due to a late start, did not have adequate time for implementation). Most instructors expressed positive feelings concerning their initial experience with the ISSOE system.

An important issue for the ISSOE system manifested itself through the interaction between teachers of different schools within the region. It became clear that different communities had varied employment opportunities. Thus, depending on where students lived, they would most benefit from a curriculum specifically geared for the area's job opportunities. Through this interactive process, teachers realized that one of the strongest aspects of ISSOE is its adaptability. That is, although potentially, ISSOE is a comprehensive statewide curriculum, teachers can select those units and modules which meet their students' needs.

The two major outcomes of the 1976-1977 school effort were to indoctrinate the teachers into the ISSOE philosophy, and 2) to produce a package of curriculum to be implemented in the 1977-1978 school year on a trial basis.

DEVELOPMENT ACTIVITIES

Generally, it was the responsibility of the IRDOE staff to facilitate the tasks of the occupational education instructors in developing a student outcome based curriculum. The actual development of materials, however, was undertaken by the teachers themselves. IRDOE was involved both in the summer workshop and in the 1976-1977 school year activities.

The summer workshop was organized and run by IRDOE with the assistance of Cornell University. Consultants were chosen and contracted by IRDOE. However, IRDOE did not select the regional coordinators who served as leaders of the small group activities or the teachers. The product of the summer was a package of "first draft" materials which the teachers took back to their regions to share with their colleagues.

During the 1976-1977 school year IRDOE staff attended regional meetings and edited and commented upon the materials received from the teachers. Often, suggestions were made, especially in the case of criterion referenced measures where several samples were offered. (see Appendix C)

Meetings throughout the year, in all three regions, were attended by various members of the IRDOE staff. At these sessions they acted as participant-observers. Since they had access to information from all three regions, as well as from the State Education Department, they were able to share it at these regional meetings. There were times when a more active training role was taken by the IRDOE staff, especially in the Orange-Dutchess and Erie-Buffalo regions where the participants were least familiar with the ISSOE program. Additionally, the staff took direct responsibility for working with teachers who developed a new curriculum area, Environmental Control, in the Orange-Dutchess region.

Validation of the ISSOE project materials was also a concern of the IRDOE staff. In conjunction with Cornell University, an instrument was developed for use with the Advisory Councils and people in industry to validate the ISSOE product in terms of the prospective employability of students. Some data are currently being collected by Cornell.

Finally, upon receiving a final package from each of the three regions, the CUNY/IRDOE staff organized these materials into a single product. They checked to see that all materials were written in a consistent, ISSOE format, and wrote suggestions for improvement and for further development.

Based on the above descriptions of IRDOE activities during the past year and on the curriculum packages already provided to the State Education Department, IRDOE met three of its four specific objectives for the 1976-77 year's activities.

The curriculum materials that were developed were modular in nature and were based on the teacher's knowledge of the tasks required for entry level jobs in their respective occupational areas. Each of the major objectives were stated in behavioral terms and were listed with their associated tasks. In many instances criterion referenced measures were developed or outlines for their development were provided. In almost all instances the performance objectives were specified in terms of enabling objectives and in many instances suggested instructional activities and materials were provided.

During the course of the production and revision of the ISSOE materials, the teachers, curriculum coordinators, and IRDOE staff continually reviewed and modified the major objectives and criterion measures. This approach

embodied the feedback loops envisioned in the first three aspects of the evaluation plan.

A number of factors mitigated against formally collecting student outcome data and conducting a formal evaluation of the delivery system of the ISSOE materials. Among these were: 1) Reduced number of teachers participating in the summer workshop from the projected 50 to only 19. In addition, no teachers from the Buffalo area participated in the summer workshop. 2) Of the thirteen Building Industries instructors present at the summer workshop, eight taught carpentry, two taught masonry and three taught electricity. Thus, each of these teachers at most used only one part of the Building Industry Occupations materials during the course of his teaching duties and did not represent a sufficient sample on which to base generalizations. 3) Of the eight Food Trade teachers in Orange-Dutchess during the 1976-77 school year only two were present at the summer workshop, and thus, were required to spend most of their time attempting to explain the ISSOE system to their colleagues in addition to working on revising the major objectives and assessments. 4) Due to severe weather conditions, the Buffalo region, which was not represented at the summer workshop, was not able to begin working with the ISSOE materials until February 1977.

Despite all of the above, the fifty-six teachers in the three regions ultimately participated in the review and revision process of the materials developed during the summer workshop. These revisions were incorporated in the materials compiled and edited by IRDOE for dissemination by the State Education Department.

Based on the IRDOE experience during this past year, the following general recommodations are being presented:

1) The ISSOE project should be continued. The teacher involvement and enthusiasm in the process of curriculum development and its ultimate implementation is a positive step. The quality and quantity of the materials developed is evidence of this teacher enthusiasm.

2) Selection of participating teachers and regional coordinators should occur as early as possible in the Spring semester prior to incorporation of the ISSOE project in a new region during the coming Fall.

3) Only those regions represented at summer workshops through the participation of teachers and/or regional coordinators should be invited to join the ISSOE project.

APPENDIX A

I S S O E
CUNY - OCCUPATIONAL EDUCATION TEACHERS' WORKSHOP
SUNY, Albany
July 19 - 30, 1976

MONDAY, July 19

(ALL SESSIONS IN CC315 UNLESS OTHERWISE INDICATED)

	BUILDING CONSTRUCTION	FOODS
10:00 - 10:30	REGISTRATION	
10:30 - 11:00	COFFEE BREAK	
11:00 - 11:10	WELCOME: INTRODUCTIONS Ted Abramson	
11:10 - 12:00	DIRECTION AND PURPOSE OF ISSOE Doug Adamson	
12:00 - 1:30	LUNCH -STATE QUADRANGLE	
1:30 - 2:15	SED, CUNY, -- CASE-IRDOE DIRECTION AND PURPOSE OF WORKSHOP Lee Cohen	
2:15 - 2:45	COFFEE BREAK	
2:45 - 3:30	HISTORY AND OUTCOME OF 1975-1976 ISSOE EFFORTS Al Edsel, Harold Dworetzky, John Fiore	
3:30 - 4:45	DEFINITIONS AND FORMAT Ted Abramson and Al Edsel	

TUESDAY, JULY 20

9:00 - 10:30	DEVELOPING MAJOR AND ENABLING OBJECTIVES Elaine Chapline	
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	ROLE OF CURRICULUM COORDINATOR Harold Dworetzky and John Fiore	
12:00 - 1:00	LUNCH	
1:00 - 2:15	DEFINING UNITS, MODULES AND MAJOR OBJECTIVES Group Activity Joe Messier - CC 315	DEFINING UNITS, MODULES AND MAJOR OBJECTIVES Group Activity Vance Christian - CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 3:45	STATEMENT OF MAJOR BEHAVIORAL OBJECTIVES Elaine Chapline	
3:45 - 4:45	DEFINING UNITS, MODULES AND MAJOR OBJECTIVES Joe Messier - CC 315	DEFINING UNITS, MODULES AND MAJOR OBJECTIVES Vance Christian - CC 370

WEDNESDAY, July 21

	BUILDING CONSTRUCTION	FOODS
9:00 - 10:30	TASK ANALYSIS AND BEHAVIORAL OBJECTIVES Randy Tarrier	
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	DEFINING UNITS, MODULES AND MAJOR OBECTIVES Joe Messier - CC 315	DEFINING UNITS, MODULES AND MAJOR OBJECTIVES Vance Christian - CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	MODULE DEVELOPMENT Group Activity Joe Messier - CC 315	MODULE DEVELOPMENT Group Activity Vance Christian - CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 4:45	DEFINING MAJOR OBJECTIVES Joe Messier - CC 315	DEFINING MAJOR OBJECTIVES Vance Christian - CC 370

THURSDAY, July 22

9:00 - 10:30	REFINING MAJOR OBJECTIVES Group Activities CC 315	REFINING MAJOR OBJECTIVES Group Activities CC 370
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	SPECIFYING ENABLING OBJECTIVES Group Activities CC 315	SPECIFYING ENABLING OBJECTIVES Group Activities CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	SPECIFYING ENABLING OBJECTIVES AND LEARNING ACTIVITIES Group Activities CC 315	SPECIFYING ENABLING OBJECTIVES AND LEARNING ACTIVITIES Group Activities CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 4:45	MODULE DEVELOPMENT Group Activities CC 315	MODULE DEVELOPMENT Group Activities CC 370

FRIDAY, July 23

	BUILDING CONSTRUCTION	FOODS
9:00 - 10:30	MODULE DEVELOPMENT Group Activities CC 315	MODULE DEVELOPMENT Group Activities CC 370
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	REFINING MAJOR OBJECTIVES Group Activities CC 315	REFINING MAJOR OBJECTIVES Group Activities CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	MODULE DEVELOPMENT Group Activities CC 315	MODULE DEVELOPMENT Group Activities CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 3:45	MODULE DEVELOPMENT Group Activities CC 315	MODULE DEVELOPMENT Group Activities CC 370
3:45 - 4:15	SUMMARY AND PROGRESS TO DATE Ted Abramson	

MONDAY, July 26

	BUILDING CONSTRUCTION	FOODS
9:00 - 10:30	CRITERION-REFERENCED MEASUREMENT AND MAJOR OBJECTIVES Al Edsel	
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	CRITERION-REFERENCED MEASUREMENT Group Activity CC 315	CRITERION-REFERENCED MEASUREMENT Group Activity CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	CRITERION-REFERENCED MEASUREMENT Group Activity CC 315	CRITERION-REFERENCED MEASUREMENT Group Activity CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 3:45	CRITERION-REFERENCED MEASUREMENT Group Activity CC 315	CRITERION-REFERENCED MEASUREMENT Group Activity CC 370
3:34 - 4:45	CRITERION-REFERENCED MEASUREMENT Al Edsel	

TUESDAY, July 27

	BUILDING CONSTRUCTION	FOODS
9:00 - 10:15	MODULE DEVELOPMENT AND REFINEMENT Elaine Chapline	
10:15 - 10:45	COFFEE BREAK	
10:45 - 12:00	MODULE REFINEMENT Group Activity Joe Messier - CC 315	MODULE REFINEMENT Group Activity Vance Christian - CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	CRITERION REFERENCED MEASUREMENT Group Activity CC 315	CRITERION REFERENCED MEASUREMENT Group Activity Vance Christian - CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 4:45	REFINING MODULES Group Activities CC 315	REFINING MODULES Group Activities Vance Christian - CC 370

WEDNESDAY, July 28

9:00 - 10:30	REFINING OBJECTIVES AND ASSESSMENTS Randy Tarrier	
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	REFINING MODULES Group Activity CC 315	REFINING MODULES Group Activity CC 350
12:00 - 1:00	LUNCH	
1:00 - 2:15	REFINING MODULES Group Activity CC 315	REFINING MODULES Group Activity CC 350
2:15 - 2:45	COFFEE BREAK	
2:45 - 4:15	REFINING MODULES Group Activity CC 315	REFINING MODULES Group Activity CC 350
4:15 - 4:45	SUMMARY AND PROGRESS REPORT Ken De Cerce & Lee Cohen	

THURSDAY, July 29

	BUILDING CONSTRUCTION	FOODS
9:00 - 10:30	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 4:45	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370

FRIDAY, July 29

9:00 - 10:30	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
10:30 - 11:00	COFFEE BREAK	
11:00 - 12:00	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
12:00 - 1:00	LUNCH	
1:00 - 2:15	FINALIZING MODULES Group Sessions CC 315	FINALIZING MODULES Group Sessions CC 370
2:15 - 2:45	COFFEE BREAK	
2:45 - 3:30	THE ROLE OF THE TEACHER IN THE ISSOE EFFORT Doug Adamson & Ted Abramson	

GLOSSARY

COURSE:

A State-approved course of study. The course consists of modules on instruction essential to the acquisition of competencies expected by the world of work.

UNIT:

A portion of the course which consists of a logical clustering of modules of instruction.

MODULE:

A portion of the course which addresses related tasks drawn from occupational analysis expressed in performance terms. Each module contains one or more tasks and major objectives, suggested instructional content and criterion referenced assessment.

TASK:

An activity which has a definite beginning and ending, and is performed within a limited period of time by an individual. One or more tasks are included in each module.

MAJOR OBJECTIVE:

A statement of what the student should be able to do, the conditions under which the task will be performed, and the standards for evaluating the performance. The achievement of a major objective will be reported as a component of the student's employability profile.

ENABLING OBJECTIVE:

A subordinate objective which describes in performance terms a cognitive, affective, and/or psychomotor skill which the student will need to accomplish the major objective. Achievement of an enabling objective is not reported; performance of and recording of this achievement is left to the descretion of the instructor.

SUGGESTED INSTRUCTIONAL CONTENT

A brief listing of suggested demonstrations and points of information which the instructor may wish to employ to assist the student in meeting the major objective.

CRITERION REFERENCED ASSESSMENT:

Criterion referenced assessment is derived from the performance objectives and directly measures the individual student's ability to successfully complete the tasks identified in the module. The test items are performance-based and replicate as closely as possible the tasks as they would be evaluated in the world of work.

Course: Food Trades

MAJOR OBJECTIVES:

GIVEN A LIST OF (how many) ITEMS, THE STUDENT WILL SELECT (six food borne diseases) (4 types of vermin) (3 types of food grades) AND MATCH EACH WITH (its method of prevention) (its method of control) (food items in its category) WITH 100% ACCURACY.

EXAMPLE: GIVEN A LIST OF 10 ITEMS, THE STUDENT WILL SELECT 6 FOOD BORNE DISEASES AND MATCH EACH WITH ITS METHOD OF PREVENTION WITH 100% ACCURACY.

FOR CONSIDERATION	SAMPLE ASSESSMENT
Will less than 100 percent accuracy be acceptable? If so, what percent of accuracy should be specified?	Circle the (6 food borne diseases) in the left column, and draw a line between each choice and (its method of prevention) in the right hand column.

-21-

1.	a.
2.	b.
3.	c.
4.	d.
5.	e.
6.	f.
7.	
8.	

Course: BIO
Unit: Electrical

MAJOR OBJECTIVES:

GIVEN (A SET OF TOOLS, EQUIPMENT, MATERIALS, COMPONENTS, FLOOR PLAN, DIAGRAMS, SPECIFIC CONDITIONS), THE STUDENT WILL _____ (INSTALL, MOUNT, CONSTRUCT, LAYOUT) _____ (OUTLET BOXES, CABLES, SWITCHES, MAST-TYPE OVERHEAD SERVICE) IN/ON/OF _____ (LOCATION OR DIMENSIONS) ACCORDING TO _____ (SPECIFICATIONS, CODE, STANDARDS).

EXAMPLE: GIVEN TOOLS AND MATERIALS, THE STUDENT WILL INSTALL A SPLIT-CIRCUIT (TWO CIRCUIT) CONVENIENCE OUTLET IN A KITCHEN OF A RESIDENCE TO MEET NEC STANDARDS.

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FOR CONSIDERATION

Are trade standards/specifications available in written form?

Can time and procedural standards be specified within each objective?

Are enabling objectives related to trade standards?

SAMPLE ASSESSMENT

A possible assessment is a checklist for general performance categories.

Material Selection	Tool & Equipment Selection	Safe Tool Usage	Final Product Meets Criteria (Enter Date)	

Course: BIO
Unit: Electrical

MAJOR OBJECTIVES:

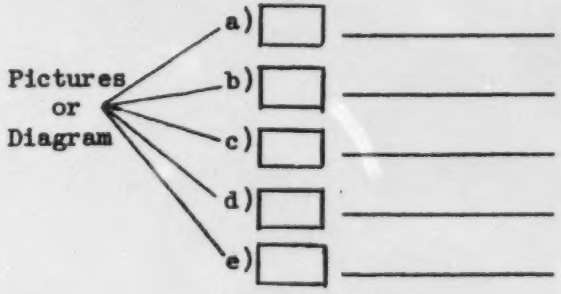
GIVEN _____ (PAPER AND PENCIL, A LIST OF TERMS, A SET OF PICTURES OF TOOLS OR MATERIALS, A FLOOR PLAN, A SET OF DIAGRAMS), THE STUDENT WILL _____ (LIST, LABEL, MATCH, SELECT, DEFINE, DRAW) _____ (COMMON TRADE TERMS, SYMBOLS, CODE SPECIFICATIONS, MATERIALS, CABLE LAYOUT, TOOLS) USED/REQUIRED FOR (INSTALLATION OF FUSE BOXES, WIRING IN RESIDENCES) [TO _____ (SPECIFICATION, CODE, STANDARDS)].

EXAMPLE: GIVEN A SET OF PICTURES OF TOOLS, THE STUDENT WILL CHECK THE TOOLS USED FOR THE INSTALLATION OF AN OVERHEAD SERVICE EXTRANCE CABLE.

GIVEN A FLOOR PLAN, THE STUDENT WILL DRAW A CABLE LAYOUT FOR SMALL APPLIANCE CIRCUITS IN THE RESIDENCE, TO MEET NEC REQUIREMENTS.

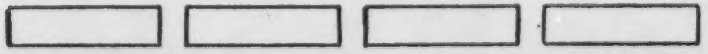
SAMPLE ASSESSMENT

1. Label each of the following outlet boxes:



2. Place an "X" on the attached floorplan to indicate the location of all outlet boxes in the residence.

3. Indicate the proper size outlet box for each of the following according to NEC.



4. Match each of the following trade terms with the appropriate symbol by writing the correct letter next to each number.

_1	_____	a.	_____
_2	_____	b.	_____
_3	_____	c.	_____
_4	_____	d.	_____
_5	_____	e.	_____
_6	_____	f.	_____

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Course: BIO
Unit: Masonry

MAJOR OBJECTIVE:

GIVEN A SET OF NUMBERED _____ (TOOLS, PICTURES, DIAGRAMS) THE STUDENT WILL _____ (LIST, LABEL, IDENTIFY) THE NAME AND SPECIFY ITS USE OF ALL THE TOOLS NEEDED TO _____ (BLEND MORTAR, BUILD A WALL, ETC.)

EXAMPLE: GIVEN A SET OF NUMBERED TOOLS THE STUDENT WILL LABEL THE NAME AND SPECIFY ITS USE OF ALL THE TOOLS NEEDED TO BLEND A ONE-BAG MIX OF PRACTICE MORTAR BY HAND.

FOR CONSIDERATION

For the assessment, would it be easier to use a printed sheet with diagrams of the tools?

SAMPLE ASSESSMENT

Next to each number, list the name and specify the use of each tool.

		Name	Use
(Numbered Tools)	a.	_____	_____
	b.	_____	_____
	c.	_____	_____

Course: Building Trades
Unit: Carpentry

MAJOR OBJECTIVE:

GIVEN A SET OF NUMBERED _____ (TOOLS, PICTURES, DIAGRAMS, ETC.), THE STUDENT WILL IDENTIFY _____ (#) _____ (ITEM COMPONENT, MATERIAL, ETC.) TO CRITERION OF _____% CORRECT.

EXAMPLE: GIVEN A SET OF 6 NUMBERED SIDING STYLE SAMPLES, THE STUDENT WILL IDENTIFY 4 STYLES AND MATERIALS TO CRITERION OF 90% CORRECT.

FOR CONSIDERATION

Above format could be used for all objectives concerned with "Identification".

SAMPLE ASSESSMENT

Write the style name and material used for any four of the provided samples next to the number of that sample.

	STYLE	MATERIAL
1.		
2.		
3.		
4.		
5.		
6.		

Course: Building
Unit: Carpentry
Module: Orientation

MAJOR OBJECTIVE:

GIVEN AN OBJECTIVE TEST ON SAFETY RULES AND SHOP MANAGEMENT, THE STUDENT WILL SCORE 90% CORRECT.

FOR CONSIDERATION	SAMPLE ASSESSMENT
Is this a major objective for ISSOE?	Sample Items:
Are separate objectives and tests necessary for:	Upon entering the shop, the first _____ (#) safety rules are:
___ time schedule?	1. _____
___ fire drill procedures?	2. _____
___ handbook regulations?	3. _____
What is acceptable % correct on objective test?	OR
	Place a check in the space provided next to each statement below if that statement applies to shop management or safety rules and regulations. _____(#) of the _____(#) statements should have checks.
	_____ .....
	_____ .....
	_____ .....
	_____ .....

BREAKFAST COOKERY: RATING OF PRODUCTS

Breakfast Food items to be rated: (a) scrambled eggs (b) pancakes (c) waffles
(d) French toast (e) bacon (f) specialty item
(g) hash-brown potatoes

INSTRUCTIONS: This scale enables each finished food item to be rated on 9 separate product qualities. These qualities are rated on a scale from POOR (1) to GOOD (3). The letters preceding each food item in the above list, correspond to the letters used in the rating scale

PRODUCT QUALITIES	PRODUCT RATING		
	POOR (1) items	FAIR (2) items	GOOD (3) items
	a b c d e f g	a b c d e f g	a b c d e f g
1. APPEARANCE(1) dull ----------shiny			
2. APPEARANCE fine pieces -------- large pieces			
3. CONSISTENCY dry or watery ____ slightly moist			
4. TEXTURE (2) soggy ---------- crisp			
5. LIGHTNESS white & yoke ------- white & yoke not well blended --- well blended			
6. LIGHTNESS compact & heavy ----fairly light			
7. TASTE stale, flat, salty - well seasoned			
8. FLAVOR raw or burned ------- well cooked			
9. TENDERNESS rubbery or tough ------ tender			

It might be a good idea to indicate the minimum score necessary to pass this module. Furthermore, there might be certain product qualities in which a rating of (2) or (3) is needed in order to pass.

(1) Should APPEARANCE include "not well plated -------well plated"?

(2) Should TEXTURE include "thin ----- thick", "course ------ smooth"?

Course: Food Trades

MAJOR OBJECTIVE:

GIVEN (appropriate supplies) _____, THE STUDENT WILL (prepare) (wash) (portion) (weigh) (short order food items) (dirty utensils) (product) (ingredient), MEETING THE TIME FRAME AND QUALITY STANDARDS SET FORTH BY THE INSTRUCTOR.

EXAMPLE: GIVEN THE APPROPRIATE SUPPLIES, THE STUDENT WILL PREPARE 7 SHORT ORDER FOOD ITEMS MEETING THE TIME FRAME AND QUALITY STANDARDS SET FORTH BY THE INSTRUCTOR.

FOR CONSIDERATION

Can this sample assessment (checksheet) be standardized for all these objectives? For instance, can "Follows Proper Procedures" include scrubbing cans and lids as well as plating food items for service?

For each objective, will raters have same interpretation of "Follow proper procedures"?

Are safety and sanitation standards available in written form?

Is a description of "time frame" needed? (e.g. a 10 to 20 minute interval)

Is a description of quality standards needed in each case? Are the standards available in written form?

Should Formula I, II, III, be specified?

SAMPLE ASSESSMENT

Checklist for performance

	Follows Proper Procedure	Meets Safety and Sanitation Standards	Meets Time Frame	Meets Quality Standards
PREPARE & PLATE FOR SERVICE: 1. Scrambled Eggs 2. Fruit Salad 3. Vegetable Soup				
WASH: 1. Chafing Dish 2. Saucer 3. Coffee Pot				
USE: 1. Formual I 2. Formula II 3. Formula III				

Course: Food Trades

MAJOR OBJECTIVE:

GIVEN (how many?) (hand tools), (cooking utensils), (pieces of service equipment), THE STUDENT WILL USE THEM, CLEAN THEM, AND STORE THEM, MEETING THE TIME FRAME AND QUALITY STANDARDS SET FORTH BY THE INSTRUCTOR.

EXAMPLE: GIVEN 8 HAND TOOLS, THE STUDENT WILL USE THEM, CLEAN THEM, AND STORE THEM, MEETING THE TIME FRAME AND QUALITY STANDARDS SET FORTH BY THE INSTRUCTOR.

FOR CONSIDERATION

1) Does to "use" these tools, mean to use them on specific food items or check knowledge of use. (paper and pencil) Has "use" been covered in other objectives? Should this objective focus on cleaning and storage and if so, can standards of cleaning and storage be specified?

2) Is a description of a "time frame" needed? e.g. a 10 to 20 minute interval?

3) Is a description of quality standards needed in each case? Are the standards available in written form?

SAMPLE ASSESSMENT

Checklist for performance

EQUIPMENT	Uses Safely	Cleans Properly	Stores Properly	Meets Time Frame
1.				
2.				
3.				
4.				

Course: Food Trades

MAJOR OBJECTIVES:

GIVEN A SET OF NUMBERED KITCHEN EQUIPMENT OR A PICTURE OF THE SAME, THE STUDENT WILL SELECT, IN WRITING, THE APPROPRIATE SUPPLIES NEEDED TO (prepare and plate for service ----Food items), (practice good housekeeping techniques), (wash -----dirty utensils) (portion, measure, weigh a product's ingredients) WITH 100% ACCURACY.

EXAMPLE: GIVEN A SET OF NUMBERED KITCHEN EQUIPMENT, THE STUDENT WILL SELECT, IN WRITING, THE APPROPRIATE SUPPLIES NEEDED TO PREPARE AND PLATE FOR SERVICE 7 SHORT ORDER FOOD ITEMS WITH 100% ACCURACY.

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FOR CONSIDERATION	SAMPLE ASSESSMENT
Will less than 100 percent of accuracy be acceptable? If so, what percent of accuracy should be specified?	List the numbers of only those pieces of equipment needed to (wash dirty utensils). 1. _____ 2. _____ 3. _____ 4. _____

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